

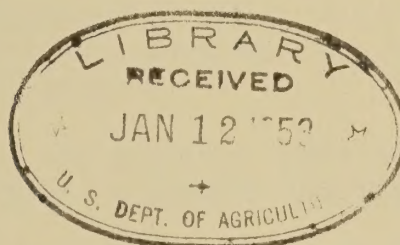
3

WORKING OUTLINE

on

EDUCATIONAL AND RECREATIONAL USES OF ELECTRICITY

The equipment referred to in all of the following sections uses electricity. Whether the usage is educational or recreational - or just hard work - depends a great deal on the user's purpose and point of view. If the subject interests you personally or will help you in your work, use this outline as a starting point for further investigation, planning, addition or deletion.



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REA-USDA  
10-52

THE HISTORY OF THE

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THE HISTORY OF THE

The following is a list of the names of the persons who have been  
connected with the office of the Secretary of the State of New York  
from the year 1784 to the present time. The names are arranged  
in alphabetical order, and the dates of their appointment and  
discharge are given. The names of the persons who have held the  
office for more than one term are marked with an asterisk.





COMMUNITY USES: Human comfort, serving of food, seeing, and operation of educational and recreational equipment in various community centers and community activities.

Amplifier

Air conditioning; fans

Food service equipment

Lighting

Motors

Musical equipment

Record players, radio, television

Projection equipment

Water supply and heating

Amateur and professional theatricals - Historical pageants, Passion plays, summer theater, drive-in movies and TV, ceremonial dances, local plays and minstrel shows.

Sports: Field - Ball games, night football, playground lighting.  
Indoor - Basketball, square dancing, volley ball.

Community meeting centers and churches - Kitchen equipment for suppers and refreshments, projection equipment for educational, religious and other movies; musical equipment and lighting for church services and other meetings. Record playing for singing, square dancing. Field days, farm shows, games, demonstration, entertainment and other activities.

Vacation recreation - Lighting and other uses in resort areas, caves, boat landings on lakes, parks, platform dances, summer camps.

POWER SUPPLIER'S OFFICE BUILDINGS: Also Extension Service agents' demonstration centers and field work of educational workers.

Household equipment - Demonstration areas, kitchen and work room, possibly bath; study center and home entertainment center; portable equipment for field educational work.

Farm equipment - work shop and possibly other centers suitable to typical farming of area; portable equipment for field educational work.

Projection equipment - Light meter, slides and film projection.

Uses: Stationary and portable equipment for meetings and other contacts with rural peoples. Demonstration, entertainment, education.

SCHOOLS: Teaching and entertainment in grade schools, high schools, colleges, adult vocational schools, adult classes.

Projection equipment - Movies, slides, strip film, opaque, overhead, microscope and tachistoscope.

Voice and musical broadcast - Radio, television, record player and tape recorder.

School lunch - Preparing, cooking, serving, storing food.

<u>Mixing</u>	<u>Refrigeration</u>	<u>Cooking</u>	<u>Other</u>
Mixer	Refrigerator	Hotplate	Lighting
Slicer	Milk cooler	Roaster	Water heating
Peeler	Ice cream cabinet	Range	Dishwashing
Grinder	Freezer	Oven	Sharpener
Juicer	Walk-in	Hot food table	Small Appliances

Water supply - Cooling, heating, pumping, fountain, laboratories, showers and toilets.

Farm shop and practice farm - Day classes, veterans, young farmers, adults, club work.

Motors	Router	Melting pot	Feed grinders
Saws	Planer	Welder	Dairy equipment
Lathes	Sander	Soldering iron	Lighting
Drills	Grinder	Hand tools	Air compressor
Shaper	Buffer	Burning tools	Heating
Jointer	Brooders	Grain drying	Air cooling

Homemaking laboratories - Day-time and adult teaching.

<u>Cooking</u>		<u>Refrigeration</u>	<u>Mixing</u>
Range	Coffee maker	Refrigerator	Blender
Hot plate	Toaster	Home freezer	Mixer
Toaster	Waffle baker		Grinder
Oven	Grill		Attachments
<u>Laundry</u>	<u>Cleaning</u>	<u>Sewing</u>	
Washer	Dishwasher	Sewing machine	
Dryer	Vacuum cleaner	Shears	
Iron	Floor machine	Tracer	
Ironer	Hand polisher	Lighting	

Uses: Education, recreation and entertainment

Science classes: Microscope, toy motors, numerous other uses.



HOME EDUCATION PROGRAM: Learning about wiring, lighting and equipment; gaining information and/or skill by seeing, hearing and doing.

All equipment - Home, Farm	Improving methods and tools for work and play.
Hobby equipment -	Develops skills, interests
Radio -	News, college courses, music, debate, quiz and information programs, etc.
Record player-	Music, language records, speeches.
Television -	Same as radio with visual factor added.
Projectors -	Educational films

Uses: Learning customs, language, music, current and historical happenings, gaining attitudes, information, skills, equipment and hobbies for better farming, better homemaking and better living.

READING: Improved reading, simplified storage of reading materials.

Lighting for reading -	Speeds and improves reading
Projector -	Tachistoscope on projector gives practice in speeding reading. Useful in other reading improvement programs.
Microfilm camera -	Reproduces on microfilm.
Microfilm readers -	Makes microfilm reading easy.

Uses: Decrease in library storage space; easy, simpler faster reading.

LIGHTING: Artistic or decorative lighting improves appearance and beauty of homes and gardens. Useful lighting improves seeing conditions for general activities and close eye work for hobbies.

Lamp conversion -	Kerosene lamps to electric ones.
Floodlights -	Pictures, art, murals, music scores.
Spotlights -	Sculpture, silhouette lighting, figures art objects.
Pinhole spots -	Dining table lighting, art objects.
PAR bulbs -	Garden and other outdoor lighting
Fluorescent valances -	Lighting of draperies, pictures, plates.
Fluorescent tubes or incandescent bulbs -	Bookcases, niches, transparencies.
CIM portable lamps -	Reading and close work

Uses: Artistic or decorative lighting of draperies, pictures, bookcases, niches sculpture, flowers on tables, gardens; make-up lighting; light for reading.

MUSICAL INTEREST: Voice, musical instruments, dance forms, recordings, broadcast.

Combination machines -	Radio, TV, record player, recorder
Radio, AM & FM -	Recorded and direct musical broadcast
Television -	Music, dance. Black & white, color.
Record player -	Three-speed; regular, long-playing
Tape recorder -	Recording home or broadcast music.
Guitar, Spanish, Hawaiian -	Guitar with amplifier attachment.
Violin and other string instruments	Amplifier attachment can be added.
Accordion -	Amplifier attachment can be added.
Player piano -	Motor attachment for player piano
Piano attachments, for organ -	Attachment for converting to organ
Clavoline, Solovox, Organo -	Duplicates many instruments, voice
Electronic organ, chord organ -	Motorized and electronic types.
Amplifier or loud speakers -	Increase volume for large areas.

Uses: Education, recreation and entertainment.



PHOTOGRAPHY AND FILMS: Taking, developing, enlarging, mounting and showing pictures; producing and showing films.

Floodlights, photoflash -	More light for night & indoor photography.
General and local lighting -	Existing lighting furnishes some light.
Water heating device -	Warm water for developing bath.
Printer -	Printing of pictures from negative.
Enlarger -	Large, expensive equipment for enlarging.
Mounting iron or press -	Iron or press for dry mounting pictures.
Photometer -	Color density meter or analyzer.
Splicer -	Lighting and enlarger for movie cutting.
Slide viewer -	Showing enlarged views of small slides.
Movie viewer -	1 or 2 viewers, as for football use.
Lighted slide display	Light box for showing many small slides.
Slide projector -	Projection of 2x2" or/and 3½x4" slides.
Slidefilm projector - 35 mm	For single or double frame negative.
Combination 35 mm projector	For 2x2" slides or 35 mm slidefilms.
Movie projector -	8 mm or 16 mm (rarely 35 mm) movie films.
Opaque projector -	Pictures, drawings.
Overhead projector -	Used for slide and other transparencies.
Sound-film recorder -	Sound track on movie
Tape recorder -	Sound track recording for use with films
Pantagraph -	Enlarger of photos for art purposes
Timing devices -	Control of starting & stopping of process.
Record player -	Plays sound to accompany slidefilms.
Sound-slide projector -	Combination record player & projector
Transparency lighting -	Lighting behind enlarged transparencies.

Uses: Lamp shades, Christmas cards, pictures, photomurals, entertainment and education.

WOOD, METAL, PLASTIC, SOFT STONE, BONE, HORN: Many types of machines are common to the working of all these different materials, though there may be a difference in the working tools used in them for different materials, in the method of use and speed of operation. Electric motors power them. Most of the equipment comes in portable or stationary models.

Saws -		Diamond dust rotary saws with oil bath
Circular	Band	or mud saws are used for cutting stone
Chain	Jig	for jewelry work.
Lathe -		For wood, metal, plastic, soft stone
Drill press & attachments -		Portable and stationary equipment.
Drills	Router	Available with drill kits and separate
Sander	Screwdriver	accessory pieces. Hand drills also.
Hacksaw	Paint mixer	
Shaper, Jointer, Router -		Used on wood and plastic.
Planer -		Commonly used on wood.
Milling machine -		Used on plastic.
Sander, disc, band, drill -		Sander-grinder-buffer-polisher
Belt		combinations are available in hand,
Oscillating		table and floor machines.
Filing machine or jig saw -		Used especially on plastics.
Grinders -		For sharpening tools, grinding stone.
Stone	Rubber & abrasive	Used wet, dry, oil bath, water drip
Emery	Composition	or stream, sometimes with wax or tallow,
Carborundum	Resenoid	especially in jewelry work.
Cleaners, buffers -		Wire or fiber brushes or pads
Polishers -		Rouges, silicon carbide, talc and other
Wooden wheel with rubber,		fine abrasives are used with these,
felt, leather, cloth, lambs		or silicon carbide cloth.
wool, wool.		
Rubber wheel for sanding and		
polishing pads		
Fabric disc or felt wheel.		
Hand tools for detail work -		Portable tools with direct drive or
Cutting	Grinding	flexible shaft, used for making beads,
Carving	Sanding	other jewelry; airplanes, ship, trains
Drilling	Polishing	and other models; designs on glass,
		plastic, wood, soft stone.



WOOD, METAL, PLASTIC, SOFT STONE, BONE, HORN: (Continued)

Air Compressor -

Cleaning, blowing

Some electric equipment using heat is convenient to use in working with the materials considered in this section.

Melting pots for -

Glue Wax

Solder Lead

Heated glue is used for furniture and some plastics. Wax is used for water-proofing soft stone and making beads. Solder for tempering tools, tinning.

Soldering iron, gun -  
or pencil and combination  
with burning pencil

Foil embossing of wood, plastic.  
Burning of wood, cork designs.  
Joining, forming, embossing plastic.

Welder - forge -

Metal work.

Uses: Bird houses, book ends, gavels, paper weights, jewel boxes, whatnots, shoe racks, magazine racks, tables, desks, other furniture, frames, bowls, plates, trays, jewelry, fixtures, tool making for hobbies, lamps, refinishing furniture, games, homemade lighting equipment, models, miniature furniture and buildings, bulletin boards.

MINERALOGY: Cutting, grinding, polishing and displaying of stone specimens is an interesting hobby. The various tools for this are covered in a previous section. To add interest, use bookcase or shelf lighting by fluorescent tubes for ordinary specimens and ultra-violet or black light for specimens which fluoresce or phosphoresce.

Uses: Paperweights, door stops, exhibits, inlays.

JEWELRY: The cutting, grinding and polishing of certain stones or pebbles for making semi-precious jewels is done with tools above. Cementing small stones to "dop" sticks makes holding them easy. Drilling and soldering operations often help in assembly of the final jewelry and polishing lends brightness of finish.

Uses: Rings, bracelets, necklaces, fobs, earrings, belts, buckles, tie clasps, jewel boxes, picture frames, jewelled bric-a-brac.

CEMENT: Cement decorative objects and garden and lawn use of cement in rock gardens, walks, walls, shuffleboard and game courts are facilitated by a cement mixer.

CERAMICS: Pottery clays mixed, shaped, baked, decorated, glazed and fired at home or in the community make interesting and useful objects. Ready-prepared pottery slip ready for pouring, objects already shaped ready to decorate and glaze are also available, and some communities have firing services available, making the purchase or making of a kiln unnecessary.

Mixing device, or old churn -	Mixing hook on drill press to make slip.
Water heating device -	Hot water to mix with clay for slip.
Potter's wheel -	Motor-driven throwing wheel for shaping pottery with hands.
Household range oven or roaster- (at approx. 250° F); and/or electric heater or infra-red bulbs for mold drying (oven door ajar).	Baking special low-temperature clays and glazes; drying molds, step in bisque drying preceding firing.
Pottery kiln -	Portable kiln from oil drum, etc., or homemade stationary kiln of brick or building block. Commercial types for bisque and glaze firing.
Sprayer -	
Ceramic and gem tools - Sander -belt, drum, disc	Carries on all operations necessary in pottery making except firing and all operations in gem cutting, e.g.:
Sprayer	
Ball mill -up to 1 gal. jar	1. Grinders
Drill	2. Sanding disc
50" flexible shaft	3. Silicon carbide disc and grit.
Pencil point flexible shaft	4. Wood & felt polishing discs
Shaft adaptor for flexible shaft	5. Petcock and fittings for water.
	6. Brushes, dop sticks, wax, oil

Uses: Dishes, vases, bowls, jewel boxes, figurines, lamp bases.



GLASS, SOFT STONE: Decoration of glass or soft stone by cutting designs in it or adding color is possible with simple equipment. Soft stone can serve as containers if waterproofed.

Hand tools, drills, etc. -	Cutting tool makes designs & holes.
Household heating equipment -	Certain paints or special decals become semi-permanent designs when heated for approximately 15 minutes at 300° F. Melted paraffin waterproofs stone (heat to 110-120° F.; pour paraffin inside and rotate object or rub on exterior or dip object in wax and pour off excess.
Electric range or roaster	
Hotplate	
Infra-red lamp in box	
Well cooker, casserole	
Melting pot for wax	

Uses: Glasses, dishes, bowls, toilet articles, lamp bases.

ENAMELING, Metal: Cleaning metal, firing enamel on metal objects, usually copper, but also silver and gold.

Hotplate -	Heating acid solution to pickle copper.
Kiln -	Firing enamel on metal.
Hand tools -	Making designs.

Uses: Spoons, jewelry, dishes, bowls, ash trays, pictures, trays.

TIN: Cutting, joining, polishing tinware for use in home.

Drill press -	Piercing, cutting.
Soldering iron -	Solder joints, add overlay design.
Soldering pot -	Tinning, soldering.
Buffer, polisher -	Polishing and cleaning objects.

Uses: Decorative objects, candle holders, fixtures, jewel boxes, other boxes, picture frames.

WAX: Melting, drawing designs, finishing with wax.

Hotplate, range -	Melting wax.
Melting pot -	Melting wax for batik, making beads, frames.
Soldering iron or burning pencil -	Drawing designs for batik work.

Uses: Coating wood on picture frames, wax beads, fabric design or batik, waterproofing soft stone.

FABRIC: Weaving, dyeing, pattern and design tracing, cutting, painting, silk screening, crayon coloring, batiking, burning of designs, lighting fabric, ironing and pressing.

Looms -	Motorized looms are prohibitively expensive.
Tracing table; stencil tracer -	Lighting behind or below translucent glass facilitates pattern and design tracing.
Shears -	Available for cutting purposes.
Infra-red bulbs -	Drying of designs painted, silk screened or stencilled.
Wax melting pot -	Useful in melting wax for batik work, (160° F.).
Burning pencil -	Make designs on fabric, e.g., velvet, felt.
Range, hotplate -	Heat for boiling in dyeing, melting wax.
Sprayer -	Spray painting of designs on fabric.
Washer -	Even tinting of cloth; cleansing.
Sewing machine -	Embroidery, rug making, sewing.
Lighting -	Valance lighting of draperies, lighted screens, fabric exhibits. Ultra-violet lighting of fluorescent designs on fabric.
Iron -	To heat and set wax crayon designs.

Uses: Rug making, embroidery, doll clothes, stuffed animals, aprons, quilts, garments, decorative wall hangings.

LEATHER: Burning, glueing, tooling, sewing.

Heating irons -	Burning designs.
Curling      Branding	Gold tooling and stamping.
Burning      Soldering	Personal initials or insignia.
Glue melting pot -	Glueing book covers.
Sewing machine -	Making gloves, other objects of thin leather; heavy machines for other work.

Uses: Books, book marks, handbags, belts, gloves, even shoes or lounging footwear, leather jackets.



PAPER, THIN PLASTIC: Cutting and mounting of paper art objects.

Shears -	Cutting and trimming paper, plastic.
Lighting for tracing -	Table type & portable lighted glass.
Mounting iron or press -	For dry mounting pictures and joining plastic.
Enlarger, pantagraph -	Enlarging pictures for reproduction.

Uses: Pictures, lamp shades, dolls, cards.

BOOKBINDING: Glueing, binding, sewing.

Melting pot -	Glueing book covers and binding books.
Drill press -	Drilling, binding holes.
Sewing machine -	Sewing leaves of sections together.

Uses: Rebinding books, making scrapbooks. leaflets, bulletins.

LETTERING: Cutting, making, painting letters.

Jig saw -	Cutting letters and designs.
Burning pencil -	Wood burning, gold lettering, foil embossing.
Sprayer -	Stencilling letters, spraying letters before mounting.

Uses: Signs, mottoes, scrap books.

PAINT: Paint washing, paint removal, spray painting, brush cleaning.

Cleaning brushes, sander -	Cleaning and smoothing paint.
Sprayer -	Separate equipment or attachment.
Vacuum cleaner -	Spray painting tool.
Drill press -	Centrifugal cleaning of paint brush.
Paint remover -	Heating iron to remove paint.

Uses: Pictures, background painting for art work, lettering, lacquer work like cinnabar, painting objects made in hobby work.

GAMES, TOYS: Making, operating and repairing electric toys and making game equipment give pleasure for adults as well as children.

Hand tools -	Model making of ships, planes, railroads, furniture, games.
Motors and controls -	Operating electric railroad.
Electric stove -	Makes "playing house" real.
Electric iron -	Makes "playing house" real.
Plastic equipment -	Teaching kitchen planning.
TV sets, small radio -	Providing children recreation.
Toy record player -	Children playing own records.
Toy motor set -	Operating construction toys.
Soldering iron -	Making and repairing toys.
Wood working tools -	Making games and toys.
Lighting -	Easier seeing for playing of both indoor and outdoor games.

Uses: Building family solidarity, group participation, recreation, gaining skill and ability to concentrate.

HEALTH AND GROOMING: For some people, especially youth and possibly the retired aged, the pursuit of good health and/or a well-groomed appearance becomes recreation, providing relaxation and a feeling of well-being.

Health equipment

Blankets, mattresses  
Climate control  
Sun-lamp  
Infra-red lamp  
Exerciser  
Massager & vibrator  
Record player for exercise records  
Radio for exercise programs  
Water heater

Grooming equipment

Hair clippers; shaver  
Hair brush  
Hair dryer  
Manicure, lighted mirror  
Toothbrush  
Shoe polisher  
Laundry equipment  
Tie presser  
Vacuum cleaner  
Blower  
Cleaner  
Sprayer  
Running water

Uses: Companionship gained with neighbors by home beauty shop; self improvement program.



SPORTS AND EXERCISE: Automatic exercising, lighting.

Bicycle -	Forces person to exercise.
Horse -	Mechanized horseback riding.
Worm rod -	Makes obtaining worms for fishing easy.
Lighting -	Baseball field, croquet, tennis, badminton, ping-pong, other games.

Uses: Home exercise, field games, sports.

ENTERTAINING: Present-day outdoor evening entertainment is possible because of lighting equipment. The trend in informal indoor and outdoor entertaining is to use table appliances for eating so that the homemaker may join the group and even have her family and guests help with entertaining.

Motor equipment -	
Blenders	Ice cream freezer
Coffee mill	Milk shaker
Freezer	Mixers - beverage, food
Fruit juicer	Refrigerators
Heating equipment -	
Baker (biscuit & muffin)	Lunchbox
Barbecuer	Oven - Built-in range oven
Oven-type with spit	Infra-red cooker
Motor-driven spit	Roaster type
Bottle (thermos)	Pasteurizer
Bottle sterilizer & warmer	Percolator (see coffeemaker)
Broiler	Popper (corn)
Buffet	Pressure canner or cooker
Chafing dish	Range
Casserole or bean pot	Tea cart (serving table) or wagon
Coffeemaker	Timer, nonheating (controls heating)
Drip-type coffeemaker	Roaster
Percolator	Roaster (weiner)
Vacuum coffeemaker	Sterilizer (bottle)
Cooker	Teakettle
Egg cooker	Toaster
Well cooker	Toaster (sandwich)
Dehydrator	Tray
Double boiler	Urn
Egg poacher	Wafflebaker
Fryer	Conventional wafflebaker
Deep-fat fryer	Combination wafflebaker
Frying pan	Grill and sandwich toaster
Griddle	Grill, fryer, baker, sandwich
Grill	Warmer
Hotplate (table stove)	Biscuit warmer
Built-in range units	Bun warmer
Conventional hotplate	Bottle warmer
Combination (broiler-toaster)	Food warmer
Kettle (water and tea)	Tray warmer



MISCELLANEOUS:

Chimes	Christmas tree lighting
Christmas tree turner	Firelogs
	Lighters

PLANT LIFE: Starting plant growth early, prevention of chilling, watering, cutting, trimming, pest control, and lighting.

Mower	Indoor plant lighting
Hedge trimmer	Garden lighting
Chain saw	Running water
Sprayer	Infra-red bulbs
Hotbeds	Ultra-violet light
	Flower dryer

Uses: Indoor and outdoor gardens; plant boxes

ANIMAL LIFE: Feeding, grooming, raising livestock, poultry, fish.

Fish aquarium -	Lights help plant growth, show fish.
Heater	
Lights	
Insect traps -	Feeding fish in ponds
Bull exerciser -	Walking the bull for exercise
Grain & hay dryer -	Better quality feed for animals
Feed grinder -	Grinding grain for feed for stock, poultry.
Feed mixer -	Helpful in mixing feed for stock, poultry.
Food grinder -	Grinding meat for food for some animals.
Refrigeration -	Keeping meat, other food for minks, etc.
Air conditioning -	Helpful in some projects.
Clippers and brushes -	Grooming for show at fairs, contests.
Running water -	Easy cleaning, watering
Ultra-violet lighting -	Sunlight effect
Infra-red lighting -	Brooding; special aches, pains.

Uses: Education in raising animals and improving animal life.